CLAIM AMENDMENTS

1 - 28. (canceled)

29. (new) A storage medium for the storage of data, the storage medium comprising

a glass storage disk having opposite faces;

a reflective coating on one of the faces of the glass storage disk;

a polymer disk on the reflective coating; and

metallic ions in the glass storage disk or on the other face thereof, the metallic ions being so constituted that when irradiated with a focused laser beam these metallic ions are reduced to metallic particles in the glass storage disk.

30. (new) The storage medium for the storage of data defined in claim 29, further comprising

a doped layer in the glass disk holding the metallic ions, whereby irradiation by the focused laser beam can convert the metallic ions of the doping into the metallic particles or aggregations of the metallic particles in the glass disk.

31. (new) The storage medium for the storage of data defined in claim 30, wherein the doped layer is generally at the one face of the glass disk.

32. (new) The storage medium for the storage of data defined in claim 29, further comprising:

a layer of donor medium holding the metallic ions on the other face of the glass disk.

33. (new) The storage medium for the storage of data defined in claim 29, wherein the metallic ions are of silver, gold, platinum, or copper.

34. (new) The storage medium for the storage of data defined in claim 29, wherein the polymer disk is provided with an optically functional structure for guiding a read/write beam.

35. (new) The storage medium for the storage of data defined in claim 34, wherein the optically functional structure of the polymer disk is arranged on a face of the polymer disk turned toward the glass storage disk.

36. (new) A method of storing data on a storage medium, the method comprising the steps of:

providing a storage medium having

a glass storage disk having opposite faces,

a reflective coating on one of the faces,

a polymer disk on the reflective coating,

metallic ions in or on the glass storage disk; and

writing to the disk by irradiating the glass storage disk by focused electromagnetic or particle irradiation and thereby reducing the metallic ions to metallic particles in the glass disk and defining the data being stored.

37. (new) The method defined in claim 36, wherein the glass disk has a doped layer holding the metallic ions.

38. (new) The method defined in claim 37 wherein the doped layer is formed as a helical track.

39. (new) The method defined in claim 37, wherein the doped layer is at the one face.

40. (new) The method defined in claim 37, wherein the doped layer is formed by locally doping the glass disk in a temperature range below a transformation temperature of the glass of which the glass disk is comprised.

41. (new) The method defined in claim 40, further comprising the step of:

reducing the metal ions to metallic clusters in the locally doped areas by heating the glass disk with a second focused laser beam above the transformation temperature of the glass of which the glass disk is comprised.

42. (new) The method defined in claim 41, wherein the first focused laser beam and the second focused laser beam are the same, and reducing the metal ions to metallic clusters occurs immediately after locally doping the glass disk.

43. (new) The method defined in claim 36, wherein the glass disk has on the other of its faces a layer of donor medium holding the metallic ions, whereby when the donor medium is irradiated the metallic ions are transferred into the glass disk and form the particles therein.

44. (new) The method defined in claim 43 wherein the glass disk is irradiated through the other face.

45. (new) The method defined in claim 36, further comprising the step of reading the medium by

irradiating the glass storage disk by electromagnetic or particle irradiation through the glass storage disk and thereby reading the data stored in the metallic particles.

46. (new) The method defined in claim 45, wherein the reading and writing of the medium are done by a laser beam in a visible spectral region.

47. (new) The method defined in claim 36, wherein the ions are reduced to metallic particles by resonance-enhanced absorption of radiation.

48. (new) The method defined in claim 47, wherein the reduction of metallic ions is effected by heating the entire storage medium above a transformation temperature of the glass storage disk.

49. (new) The method defined in claim 36, further comprising the step of

deleting stored data by heating the storage medium.

50. (new) The method defined in claim 36, wherein analog data is stored by varying an intensity of the focused electromagnetic or particle irradiation.

51. (new) The method defined in claim 36, further comprising the step of:

retrieving data from the storage medium by detecting a phase displacement of a reading laser beam caused by an altered index of refraction in a locally doped area of the glass disk.

52. (new) A storage medium comprising:

a glass disk having opposite faces;

a protective polymer disk on one of the faces of the glass disk;

metallic ions in or on the glass disk; and

metallic particles in the glass disk transferred from the donor medium to the glass disk by a local heating with a focused laser beam.

53. (new) The storage medium defined in claim 52, further comprising

a donor medium holding the metallic ions on the other face of the glass disk.

54. (new) The storage medium defined in claim 52, further comprising

a doping layer in the glass disk holding the metallic ions.

55. (new) The storage medium defined in claim 54 wherein the doping layer is at the one face.

56. (new) The storage medium defined in claim 54 wherein the doping layer is formed as a spiral.